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United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e. PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	2 5 3 DC0000094 11	12 10/08/04 17	18 C	19 S	20 2

Remarks

21 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	CA	Reserved
67 10 69	70 5	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time/Date	Permit Effective Date
Potomac Electric Power Company, Inc Benning Generating Station 3400 Benning Road, NE Washington, DC 20019	9:00 AM August 4, 2010	06/19/2009
	Exit Time/Date	**Permit Expiration Date**
	5:30 PM, August 4, 2010	06/18/2014

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)	Other Facility Data (e.g., ISC NAICS, and other descriptive information)
1 Fariba Manvi, Lead Environmental Engineer (PEPCO), 202-331-6641 2 Joe Camerini, Plant Manager (NAES), 202-388-2513 3 Heather Binnerhoff, EHS Manager (NAES), 202-388-2534 4 John Keiller, (PEPCO/Environment), 703-253-1782 5 Aleta Finney, (PEPCO/Environment) 6 Shirley Harmon, Power Plant Assistant Manager, (PEPCO Energy Services, Inc.)	

Name, Address of Responsible Official/Title/Phone and Fax Number	Contacted
Stephan Wisniewski, Vice President Operations 701 Ninth Street, NE, Washington, DC 20068	X Yes ___ No

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)

X Permit	X Self-Monitoring Program	Pretreatment	MS4
X Records/Reports	Compliance Schedules	X Pollution Prevention	
X Facility Site Review	X Laboratory	X Storm Water	
X Effluent/Receiving Waters	X Operations & Maintenance	Combined Sewer Overflow	
Flow Measurement	Sludge Handling/Disposal	Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes	SEV Description
A0012	Numeric effluent violation (Sample results exceeded permit effluent limits)
A0N12	Numeric effluent violation (Sample results exceeded permit effluent limits)
A0023	Industrial spill (water from the cooling towers spills over and flows into city MS4 lines)

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Adion Chinkuyu	District Department of the Environment /Water Quality Division/202-535-2193	August 4, 2010
George Onyullo	District Department of the Environment /Water Quality Division/202-727-6529	August 4, 2010
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date

Comments

	PERMIT NO. DC0000094
SECTIONS F THRU L: COMPLETE ON ALL INSPECTIONS, AS APPROPRIATE. N/A = NOT APPLICABLE	

SECTION F - FACILITY AND PERMIT BACKGROUND

ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code) Same	**DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE** June 3, 2009 EPA & DDOE **FINDINGS** None

SECTION G - RECORDS AND REPORTS

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. DETAILS.	_X_ YES	____ NO	___ N/A (Further explanation attached ___X___)
(a) ADEQUATE RECORDS MAINTAINED OF:			
(i) SAMPLING DATE, TIME, EXACT LOCATION	_X YES	_ NO	_ N/A
(ii) ANALYSES DATES, TIMES	_X YES	_ NO	_ N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	_X YES	_ NO	_ N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED	_X YES	_ NO	_ N/A
(v) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data)	_X YES	_ NO	_ N/A
(b) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g., continuous monitoring instrumentation, calibration and maintenance records).	_X YES	_ NO	_ N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT.	_X YES	_ NO	_ N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING LOGS FOR EACH TREATMENT UNIT.	_X YES	_ NO	_ N/A
(e) QUALITY ASSURANCE RECORDS KEPT.	_X YES	_ NO	_ N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS.	_ YES	_ NO	_X N/A

SECTION H - PERMIT VERIFICATION

INSPECTION OBSERVATIONS VERIFY THE PERMIT. DETAILS.	_X_ YES	___ NO	____ N/A (Further explanation attached ____X_____)
(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	_X YES	_ NO	_ N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT.	_X YES	_ NO	_ N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	_X YES	_ NO	_ N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	_X YES	_ NO	_ N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES	_ YES	_ NO	_X N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED. **(Including recycled)**	_X YES	_ NO	_ N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	_X YES	_ NO	_ N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	_X YES	_ NO	_ N/A
(i) ALL DISCHARGES ARE PERMITTED.	_X YES	_ NO	_ N/A

Comments:

	PERMIT NO. DC0000094
SECTION I - OPERATION AND MAINTENANCE	
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. __X__ YES ____ NO ____ N/A (Further explanation attached ___X_____) DETAILS: **(Oil/water separator at Outfall 201 is out of service/being replaced)**	
(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED.	_X_ YES _ NO _ N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	_X_ YES _ NO _ N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	_ YES _ NO _X_ N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED. **Once per year by Triambirate, Inc.**	_X_ YES _ NO _ N/A
(e) ALL TREATMENT UNITS IN SERVICE.	_ YES _X_ NO _ N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS. **Mostly in-house staff**	_X_ YES _ NO _ N/A
(g) QUALIFIED OPERATING STAFF PROVIDED.	_X_ YES _ NO _ N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS. **Training manual, on-job training**	_X_ YES _ NO _ N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	_X_ YES _ NO _ N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT.	_X_ YES _ NO _ N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED. **SOPs for preventive maintenance (e.g. O/W separator)**	_X_ YES _ NO _ N/A
(l) SPCC PLAN AVAILABLE. **Integrated Contingency Plan (ICP)**	_X_ YES _ NO _ N/A
(m) REGULATORY AGENCY NOTIFIED OF BY-PASSING. (Dates _____)	_ YES _ NO _X_ N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION.	_ YES _X_ NO _ N/A
(o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED.	_ YES _X_ NO _ N/A
SECTION J - COMPLIANCE SCHEDULES	
PERMITTEE IS MEETING COMPLIANCE SCHEDULE. __X__ YES ___ NO ___ N/A (Further explanation attached _____)	
CHECK APPROPRIATE PHASE(S):	
___ (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.	
_X_ (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING (mortgage commitments, grants, etc.).	
_X_ (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.	
__ (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.	
___ (e) CONSTRUCTION HAS COMMENCED.	
_X_ (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.	
___ (g) CONSTRUCTION HAS BEEN COMPLETED.	
___ (h) START-UP HAS COMMENCED.	
_ (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.	

Comments:

1. The facility representatives stated that last summer during cleaning and inspection of the oil/water separator at Outfall 201, hair like cracks were discovered inside the separator, so the facility decided to replace it with a new one. The wastewater was being treated using granular activated carbon filters in two tanks (portable water separator) and discharged through Outfall 201.

2. The facility is under compliance schedule for the construction of a manhole K so that it is not affected by tides. Manhole K is located close to the intake and will be used as Outfall 101 for monitoring stormwater from the transformer site. The outfall/manhole was submerged at the time of inspection.

	PERMIT NO. DC0000094
SECTION K - SELF-MONITORING PROGRAM	
PART 1 - FLOW MEASUREMENT (Further explanation attached ____X____) PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	X YES _ NO _ N/A
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	X YES _ NO _ N/A
TYPE OF DEVICE _ WEIR _PARSHALL FLUME _MAGMETER _VENTURI METER X OTHER (Specify **Totalizer (~water meter) @ 003 and other outfalls have various estimating procedures)**	
(b) CALIBRATION FREQUENCY ADEQUATE. (Date of last calibration ___) **Outfall 003 meter does not need calibration.**	X YES X NO _ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	X YES _ NO _ N/A
(d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED.	X YES _ NO _ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	X YES _ NO _ N/A
PART 2 - SAMPLING (Further explanation attached _____X_____) PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS: **Pepco and NAES collect all samples and analyze pH and Cl_2 on site.**	X YES _ NO _ N/A
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	X YES _ NO _ N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	X YES _ NO _ N/A
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. IF NO, __ GRAB X __ MANUAL COMPOSITE __ AUTOMATIC COMPOSITE __ FREQUENCY **once per month**	X YES _ NO _ N/A
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	X YES _ NO _ N/A
(i) SAMPLES REFRIGERATED DURING COMPOSITING (**No thermometer in refrigerator**)	X YES _ NO _ N/A
(ii) PROPER PRESERVATION TECHNIQUES USED	X YES _ NO _ N/A
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	_YES _ NO X N/A
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	X YES _ NO _ N/A
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	__ YES X NO _ N/A
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	_ YES _ NO X N/A
PART 3 - LABORATORY (Further explanation attached _____X_____) PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS: **Contract Lab was not visited during subject CEI.**	X YES _ NO _ N/A
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. (40 CFR 136.3)	X YES _ NO _ N/A
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	__ YES _ NO X N/A
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	_ YES X NO _ N/A
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT. **Onsite labs**	X YES _ NO _ N/A
(e) QUALITY CONTROL PROCEDURES USED. **By Contract Lab**	X YES _ NO _ N/A
(f) DUPLICATE SAMPLES ARE ANALYZED **10% (TSS); 5% (O&G)** OF TIME.	X YES _ NO _ N/A
(g) SPIKED SAMPLES ARE USED _____**10 %** OF TIME.	X YES _ NO _ N/A
(h) COMMERCIAL LABORATORY USED. **O&G, TSS, Metals**	X YES _ NO _ N/A
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	X YES _ NO _ N/A
LAB NAME: **Microbac Laboratories, Inc.** (Lab picks up samples at PEPCO site). LAB ADDRESS: **Baltimore Division, 2101 Van Deman Street, Baltimore, MD 21224. Tel. 410-633-1800/6553**	
Comments: See attached comments. Commercial lab analyzes oil and grease, total suspended solids, and metals	

PERMIT NO. **DC0000094**

SECTION L - EFFLUENT/RECEIVING WATER OBSERVATIONS (Further explanation attached ___X___)

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOLIDS	COLOR	OTHER
101	#	#	#	#	#	#	
013	None	None	Some¶	None	None	None	
203	None	None	None	None	None	None	
202	None	None	None	None	None	None	
201 & 003	**No discharge flows at 201 and 003.**						

(1) # At Outfall 101, the inspectors could not see the receiving waters because the outfall was under tall thick grass.

(2) ¶ At Outfall 013, no plume in the river's wetlands could be distinguished due to the muddy pool of water where 013 discharged.

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M - SAMPLING INSPECTION PROCEDURES AND OBSERVATIONS (Further explanation attached _____) **No samples were taken**

_ GRAB SAMPLES OBTAINED

_ COMPOSITE OBTAINED

_ FLOW PROPORTIONED SAMPLE

_ AUTOMATIC SAMPLER USED

_ SAMPLE SPLIT WITH PERMITTEE

_ CHAIN OF CUSTODY EMPLOYED

_ SAMPLE OBTAINED FROM FACILITY=S SAMPLING DEVICE

COMPOSITING FREQUENCY _____ PRESERVATION _____

SAMPLE REFRIGERATED DURING COMPOSITING: _ YES _ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE

SECTION N - ANALYTICAL RESULTS (Attach report if necessary) N/A

Water Compliance Inspection
Potomac Electric Power Company, Inc.
Benning Road Generating Station
NPDES No. DC0000094
Inspection Narrative

1. Introduction

On August 4, 2010, a National Discharge Elimination System (NPDES) water compliance inspection was conducted to evaluate the wastewater monitoring practices of Potomac Electric Power Company, Inc., Benning Road Generating Station, 3400 Benning Road, NE, Washington, D.C. 20019 (PEPCO). The District Department of the Environment (DDOE) inspectors Adion Chinkuyu and George Onyullo reviewed records, interviewed personnel, conducted an inspection tour of the facility, and completed an EPA Form 3560-3 (Water Compliance Inspection Report).

The following facility representatives participated in the inspection: Fariba Mahvi, Lead Environmental Engineer; Joe Camerini, Plant Manager (NAES); Heather Brinerhoff, EHS Manager (NAES); John Keiller, (PEPCO/Environment); Aleta Finney, (PEPCO/Environment); and Shirley Harmon, Power Plant Assistant Manager, (PEPCO Energy Services, Inc.). Inspectors' credentials were presented to facility personnel, upon entry.

The weather was sunny and dry with temperature of about 95°F.

2. Facility and Permit Background

PEPCO, which is referred to in NPDES Permit No. DC0000094 as "Benning Generating Station" is located on approximately 77 acres of land, and contribute stormwater and process water to the discharges authorized by the Permit. The facility consists of a generating station, a 230 kV switchyard, a 69 kV switchyard, fleet services, office and security services, transmission and distribution shops, transformer repair and testing shop, storage buildings, several parking areas, a hazardous waste/PCB handling storage facility, hazardous waste accumulation trailer, asbestos trailer, subsidiary and contractor facilities, and various outdoor storage areas. The generating station is owned by Potomac Power Resources (PPR) [a wholly owned subsidiary of Pepco Energy Services (PES)]. North American Energy Services (NAES) operates and maintains the Benning Road Generating Station for PEPCO.

The generating station comprises two fuel oil-based steam generators each with a rated output of 275 megawatts (used mainly during peak winter and summer seasons when electricity demand is high). There are also two fuel oil-based package boilers for auxiliary and building services. The generation station uses No. 2 fuel oil for start-up, then switches to No. 4 fuel oil for sustained operation. Approximately 4.2 million gallons of fuel is stored on-site. The facility was in operation during the time of inspection. The facility maintains a Spill Prevention, Control, and Countermeasure (SPCC) plan.

PEPCO's NPDES Permit (DC0000094) was issued on June 19, 2009 and will expire on June 18, 2014. The permit authorizes discharge of both process water (cooling water blow down and cooling

tower basin wash water)and storm water runoff. Each of these waste streams is described in the permit.

3. Record and Reports

Discharge Monitoring Reports (DMRs) and the facility's Stormwater Pollution Prevention Plan were reviewed as part of the inspection. Specifically, DMRs from June 2009 to July 2010 were reviewed along with all the supporting lab analysis and flow data used to generate the reports. The DMR and supporting data appeared to be adequate. Spot check for completeness and accuracy identified no discrepancies.

However, the inspectors noted that several excursions occurred at the site for different analytes and different outfalls. EPA and DDOE were informed about all these excursions. The excursions were:

(a) Outfall 201A: Excursion occurred on February 24, 2010.

Analytes	Permit Limit Daily Maximum	Result	Permit Limit Monthly Average	Result
Total Suspended Solids (mg/L)	100	150	30	150

(b) Outfall 013: Excursions occurred on March 12, 2010.

Analytes	Permit Limit Daily Maximum	Result	Permit Limit Monthly Average	Result
Copper (µg/L)	13.44	55	5.24	55
Iron (µg/L)	1	5.7	0.69	5.7
Zinc (µg/L)	117.18	530	73.11	530

(c) Outfall 013: Excursions occurred on June 28, 2010.

Analytes	Permit Limit Daily Maximum	Result	Permit Limit Monthly Average	Result
Copper (µg/L)	13.44	220	5.24	220
Iron (µg/L)	1	1.2	0.69	1.2
Zinc (µg/L)	117.18	120	73.11	120
Total Suspended Solids (mg/L)	100	31	30	31

(d) Outfall 101: Excursions occurred on March 12, 2010. This outfall has monitoring requirements only (i.e. there are no effluent limits).

Analytes	Permit Limit Daily Maximum (*from other outfalls*)	Result	Permit Limit Monthly Average (*from other outfalls*)	Result
Copper (µg/L)	13.44	8.2	5.24	8.2
Iron (µg/L)	1	6.5	0.69	6.5

Note: Part I of the permit (Effluent Limitations and Monitoring Requirements) requires the permittee to report iron concentration at Outfall 013 in µg/L. However, in the DMRs and excursion reports, the permittee reported iron concentration at Outfall 013 in mg/L.

Part C of the permit (Storm Water Management) requires the facility to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The facility's SWPPP is combined with the Spill Prevention, Control, and Countermeasure (SPCC) plan into a document called Integrated Contingency Plan (ICP), which is updated annually. The most recent ICP revision, that was certified on January 4, 2010, was reviewed as part of this inspection and was found to have been signed by the responsible corporate officials.

The facility's in-house laboratory is used to monitor effluent samples for residual chlorine and pH. Samples for other analytes are shipped off-site to Microbac Laboratories, Inc. in Baltimore for analysis. A review of the facility's calibration log books indicated that the lab uses a 3-point procedure to calibrate its pH meters every month. The pH buffer solutions used in the calibration were all current at the time of this inspection (**Photo 1**). Both PEPCO's and Microbac's labs were not inspected.

The inspectors also observed that a transformer containing four quarts of PCBs was struck by a lightening and spilled the contents. The PCB oil spill was reported to NRC and EPA. The e-mail of May 27, 2010 to EPA details this spill.

4. Permit Verification

PEPCO's NPDES Permit (DC0000094) was issued to the facility on June 19, 2009 and will expire on June 18, 2014. The facility is as described in the permit. The permit has monitoring and effluent limit requirements at its outfalls or monitoring points. All discharges from the facility are permitted.

5. Operation and Maintenance

(a) Wastewater

The facility has two oil-water separators: (i) oil-water separation/settling system at Outfall 201, which was designed to remove oil and grease from utility wastewater and a No. 2 oil loading area (**Photo 2**). Monitoring point 201 is the discharge point from this oil-water separator. At the time of inspection, the oil-water separator was out of service because it was being replaced with a new system (**Photo 3**). The facility representatives stated that last summer during cleaning and inspection of the oil-water separator at outfall 201, hair line cracks were discovered inside the separator, so the facility decided to replace it with a new one. The facility informed EPA in an e-

mail dated May 27, 2010 of the plan to replace the separator and use of a portable oil-water separator until construction of the new one is completed.

The wastewater was being treated using granular activated carbon in two tanks (portable water separator) and discharged through Outfall 201 (**Photo 4**); (ii) oil-water separation/settling/filtration system at Outfall 003, which is a treatment system designed to remove oil, grease and solids from water that is removed from utility manholes. The treatment system operates in batch mode and consists of an oil-water separator (**Photo 5**), storage and settling tanks (**Photo 6**) followed by a two staged filter system of cloth and charcoal media (**Photo 7**). If necessary, pH is adjusted before discharging. At the time of the inspection, the treatment system was not operating and hence, no discharge to Outfall 003.

(b) Stormwater

Stormwater runoff from PEPCO is conveyed through a drainage system and is discharged to the Anacostia River and city storm sewers at various outfalls. Most of the stormwater runoff from the service center is conveyed through a 36-inch to 54-inch storm drainpipe to the Anacostia River via Outfall 013 (**Photo 8**). However, the monitoring/sampling location for Outfall 013 is located near the property boundary (**Photo 9**). The NPDES Permit Number DC0000094 also authorizes the facility to discharge stormwater from Outfall 101 (**Photo 10**) whose drainage area is the transformer area on the west side of the power generating building (**Photo 11**). The facility has housekeeping procedures and best management practices (BMPs) that are in place to prevent release of pollutants to the environment. These include: adequate dikes and secondary containment; spill containment and clean-up; oil absorbent booms/filter cloth at inlets/drains (**Photo 12**).

Stormwater monthly inspections are conducted by NAES staff for the generating station and PEPCO staff for the remainder of the facility site. Both PEPCO and NAES use the same reporting format, which is in the form of a checklist. The report is signed by the inspector and reviewed and initialed by a manager(s). The PEPCO and NAES reports currently appear to meet the intent of EPA's Multisector General Stormwater Permit.

6. Compliance Schedules

Part VIII of the permit (i.e. Special Conditions) requires the facility to submit for comment to EPA and DDOE, a plan (with an implementation schedule) to retrofit manhole K ((**Photo 10**) into a reliable monitoring point for stormwater for Outfall 101. The goal is to ensure that the manhole is not affected by high tides. According to the facility representatives, plan submittals to EPA and DDOE have been done; proper arrangement has been made for financing; contracts for engineering services have been executed; and construction and/or equipment acquisition is on schedule.

7. Self Monitoring Program

Flow measuring device (flow meter) at Outfall 003 seemed to be working properly and does not need calibration, according to the facility representatives. The flow measuring device at Outfall 201 (portable oil-water separator) was not inspected during the time of inspection.

The overall flow from Outfall 013 is estimated from the summation of the process water/wastewater flow at the outfalls and stormwater runoff calculated using rainfall data and runoff coefficients for the various sections of the facility. This approach appears to be consistent with Part A of the permit.

The facility representatives indicated that, based on recommendations of the 2008 inspection, samples for oil and grease are now being collected directly. This is done by using a glass bottle, inserted in a plastic sample holder which is tied to a stainless steel rod; pH and chlorine residual samples are collected and analyzed within 15 minutes and documented in lab's log books; sample temperatures are also documented on chain of custody forms. NAES's monthly stormwater inspection records are essentially the same as PEPCO's. The facility's self monitoring program seemed to be in compliance with the permit requirements.

The facility's in-house laboratory is used to monitor effluent samples for residual chlorine and pH. Samples for other analytes are shipped off-site in cooler boxes (**Photo 13**) to Microbac Laboratories, Inc. in Baltimore for analysis. The samples are first kept in a refrigerator (**Photo 14**) before the lab picks them up. The facility's in-house lab utilizes a GE Infrastructure Water and Process Technologies pH Meter. A review of the facility's calibration log books indicated the uses a 3-point procedure to calibrate its pH meters every month. The pH buffer solutions used in the calibration were all current at the time of this inspection (**Photo 1**). Both PEPCO's and Microbac's labs were not inspected.

8. Effluent and Receiving Waters

PEPCO's permitted process/wastewater discharges are included in the NPDES Permit. These discharges consist of: non-contact cooling water, cooling tower blow down, oil-water separators, cooling tower basin wash water, stormwater, cooling water from boiler feed pumps, demineralization, regeneration wastes, groundwater infiltration sump water, fireside washing, and miscellaneous cleaning waste, and water for hydrostatic tank testing. A majority of these flows are discharged to the Anacostia River via Outfall 013.

NAES staff samples and conducts self-monitoring activities at Outfalls 201, 202, 203, and 013 while PEPCO staff samples Outfall 003. Effluent samples for Outfall 013 are collected at a manhole prior to the end of discharge pipe (**Photo 9**). Samples for Outfalls 003 and 201 (oil-water separators) are collected at the end of the treatment system discharge pipe. Samples for Outfalls 202 and 203 are collected from the cooling tower sumps (**Photo 15**).

The following outfalls are listed in the Permit, some are internal and some have monitoring requirements with discharge limits.

Outfall	Description	Monitoring	Limits
003[1]	Internal, oil-water separator	X	X
013[2]	Discharge to Anacostia River	X	X
101[3]	Stormwater, Discharges to Anacostia River	X	

201[4]	Internal, wastewater from oil-water separator, reverse osmosis regenerate, boiler blow down	X	X
202[5]	Internal, cooling tower blow down	X	X
203[5]	Internal, cooling tower blow down	X	X

Notes:

1. Monitoring point 003 is the discharge point from a treatment system designed to remove oil, grease and solids from water removed from utility manholes and transported to the facility. The treatment system operates in batch mode and consists of an oil-water separator, settling tank (**Photos 3 &4**) followed by a two staged filter system of cloth and charcoal media (**Photo 5**).
2. Monitoring point 013 has two sets of monitoring requirements and effluent limits. These requirements vary depending on whether or not, there is a discharge of cooling tower blow down.
3. Monitoring point 101 is manhole K for monitoring stormwater from the transformer area. It is to be retrofitted for monitoring stormwater as described in the permit. The outfall discharges to the Anacostia River (**Photo 10**).
4. Monitoring point 201 is the discharge point for the treated wastewater coming out of the oil-water separator.
5. Monitoring points 202 and 203 have two sets of monitoring requirements and effluent limits. These requirements vary depending on whether or not, there is a discharge of cooling tower blow down or cooling tower wash water. There was no cooling tower blow down discharge during the inspection (**Photo 15**).

Outfalls

(a) Outfall 003

Outfall 003 is an internal outfall that discharges batch flow (pumped) from the oil/water separator to the manhole of the 48" section of the main pipeline, which ultimately becomes the 54" main pipeline to Outfall 013. Discharge through this outfall is measured by an in-line flow meter.

The outfall was not discharging at the time of inspection and the treatment system (oil/water separator) was also not working.

(b) Outfall 201

Outfall 201 is a major internal monitoring and discharge point for the facility's industrial wastewater. The wastewater is pumped intermittently into a manhole mounted on a 48" pipeline, where the water mixes with stormwater and other process wastewater, before the ensuing combined flow enters a 54" main pipeline that discharges as Outfall 013.

The inspectors inspected a new oil/water separator that was under construction (**Photo 3**) and which, like its predecessor, will be discharging into Outfall 201. Although a portable granular activated carbon (GAC) (**Photo 4**) was installed to treat any waste water, there was no discharge at the time of this inspection. A flow meter has been connected to the GAC filter for Outfall 201.

The facility representatives indicated that, a new flow meter will be installed once the new oil/water separator construction has been completed.

(c) Outfalls 202 and 203

Both Outfalls 202 and 203 receive blow down discharges from cooling towers/units 15 and 16, respectively (**Photo 15**), which are then conveyed to Outfall 201. The flows from 202 and 203 are estimated using a valve rating system, according to facility representatives. Outfalls 202 and 203 discharge only when the facility is discarding the cooling water because of high conductivity. Each tower has a pump house for cooling (river) water where pH adjustment can also be made, if necessary. Samples for Outfalls 202 and 203 are collected from the cooling tower sumps. There was no discharge during the time of inspection.

(d) Outfall 013

Outfall 013 is the facility's largest outfall. It is a 54" pipe that discharges a combined stream of both process wastewater and stormwater. The combined discharge originates from 2 oil/water separators, non-contact cooling water, cooling tower blow down, basin cleaning wastes from two cooling towers, and stormwater from several locations within the facility. The flow from Outfall 013 is estimated from the summation of the process outfalls and stormwater runoff calculated using rainfall data and runoff coefficients for the various sections of the facility. This approach appears to be consistent with Part A of the permit.

The outfall discharges into a wetland, a few hundred feet from the Anacostia River (**Photo 8**). On the date of the inspection, there was no water coming out of the oil/water separators. However, the flow in Outfall 013 was from blow down, cooling water and possibly groundwater seepage. It was not possible to distinguish any plume as the outfall pipe discharged straight into the receiving waters (**Photo 8**).

(e) Outfall 101

Outfall 101 discharges stormwater to the Anacostia River, and is located near the facility's intake point (**Photo 10**). It conveys runoff from the transformer area on the west side of the power generating building (**Photo 11).** The facility is on a compliance schedule to re-construct/ retrofit Manhole K to eliminate the impact of high tides from the Anacostia River.

Manhole K is a monitoring location for Outfall 101.

9. Recent Improvements

An additional treatment/storage tank was installed at Outfall 003 (oil/water separator) (**Photo 6**). . It was expected that the installation of a new oil skimmer at Outfall 201 (**Photo 3**) will be completed within two to three weeks from the date of this inspection. According to the facility representatives, the new oil/water separator is expected to be larger and more efficient than the old one. A new flow meter will also be installed at the new oil/water separator.

10. Spill Over from Cooling Towers

The inspectors observed water/runoff flowing along the perimeter/chain link fence inside the facility (**Photo 16**). Although, the facility representatives claimed that the observed runoff was stormwater runoff there was no rain to vindicate the claim. Instead, it is clear that the runoff was from the cooling towers (**Photo 16**). This runoff was observed entering the DC Municipal Separate Stormwater Sewer System (MS4) through sewer sheds/manholes on the property fence (**Photo 17**).

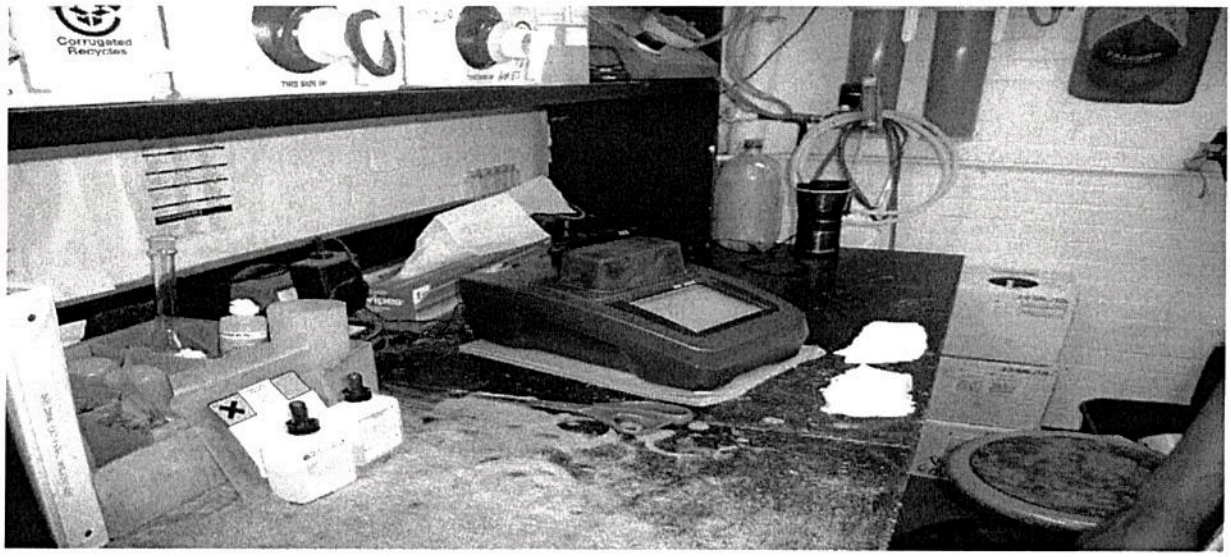
11. Attachment(s)

1. Narrative Inspection Report (this document)
2. Water Compliance Evaluation Inspection Report (EPA Form 3560-3)
3. Photo Log

NPDES Compliance Evaluation Inspection NPDES No. DC0000094
Potomac Electric Power Co (PEPCO) - Benning Generating Station,
3400 Benning Road, NE, Washington, DC 20019

Inspected by: Adion Chinkuyu, DDOE and George Onyullo, DDOE

Inspection Date: August 4, 2010



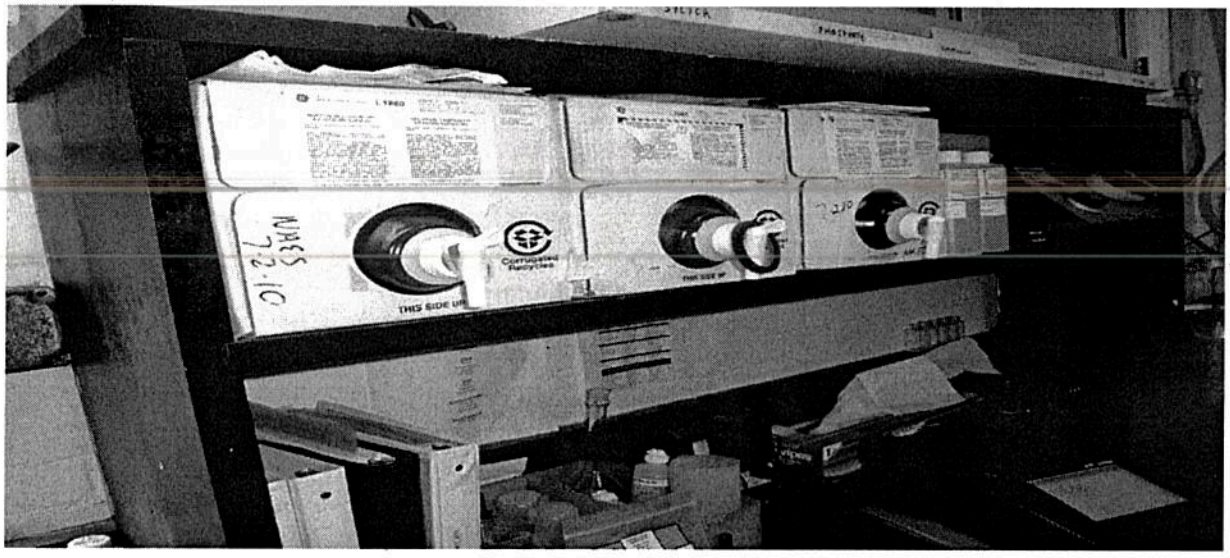


Photo 1: Laboratory equipment and pH buffer solutions. The buffer solutions had not expired at the time of inspection.

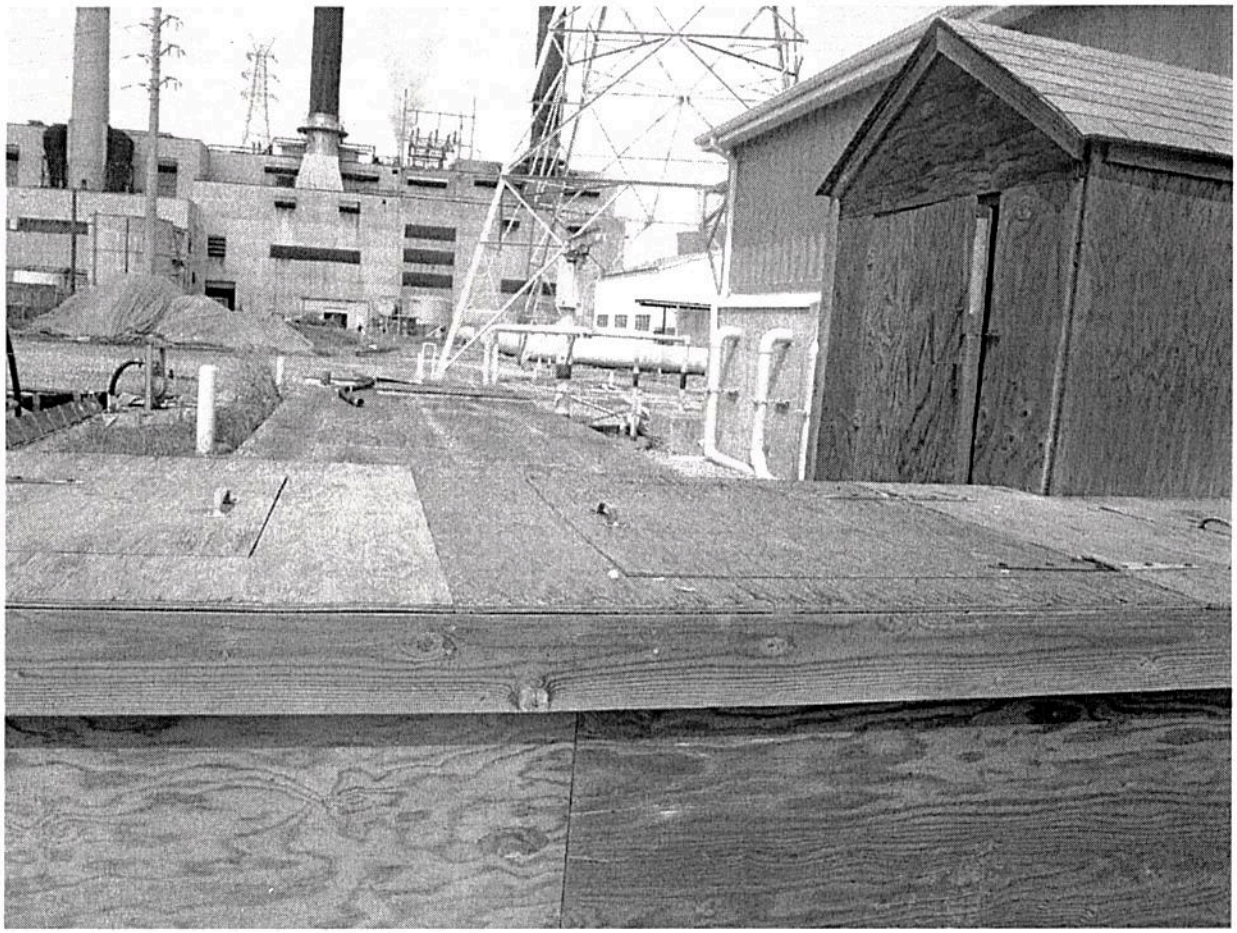


Photo 2: Old oil/water separator (at Outfall 201) covered with plywood. The old oil/water separator is being replaced with a new one (blue building on the right). Currently, the wastewater is being treated using granulated activated carbon.

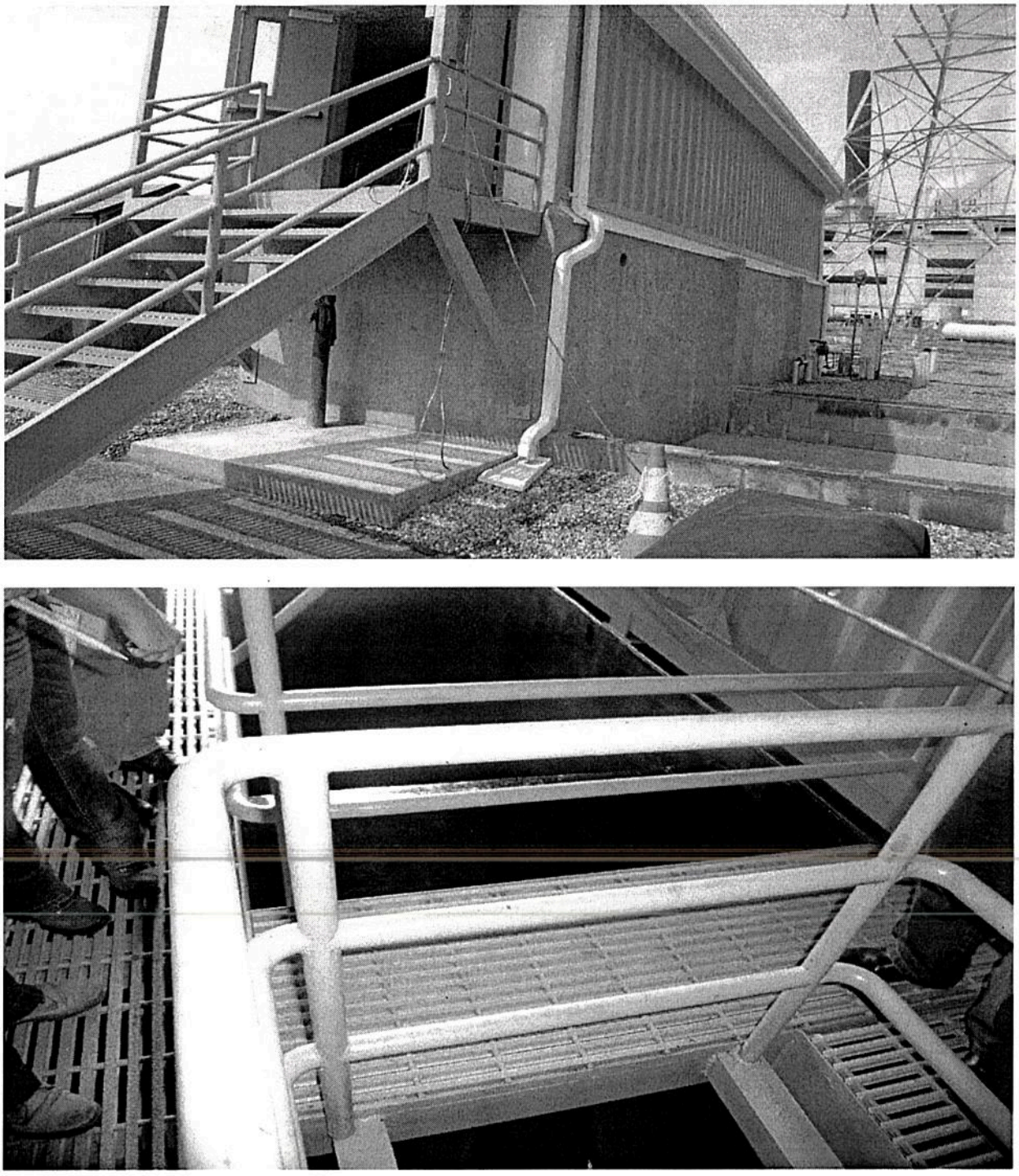


Photo 3: New oil/water separator under construction. The separator was supposed to be completed by mid September 2010.

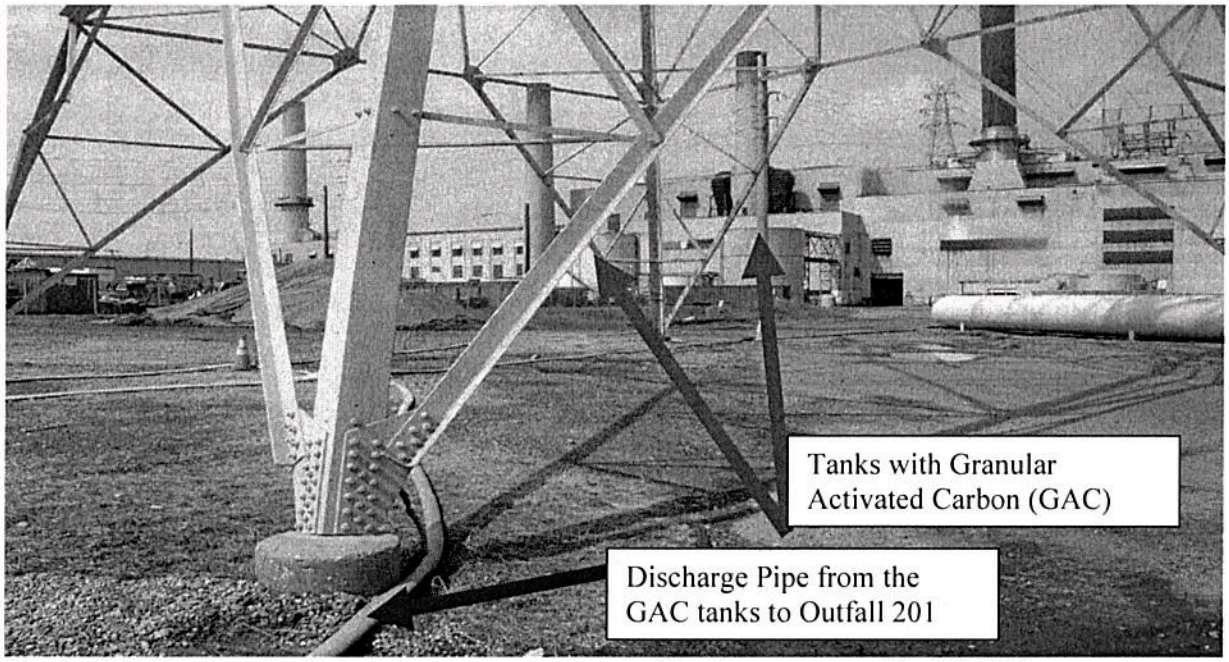


Photo 4(a): Wastewater that used to be treated at an oil/water separator (Outfall 201) now goes to a granulated activated carbon (GAC) (two grey tanks in the back ground). After the water is treated in the GAC, it is discharged to Outfall 201 through the pipe passing through the middle of the photo.

Photo 4(b): After the water is treated in the GAC or oil/water separator, it is discharged through a pipe into Outfall 201 (manhole).

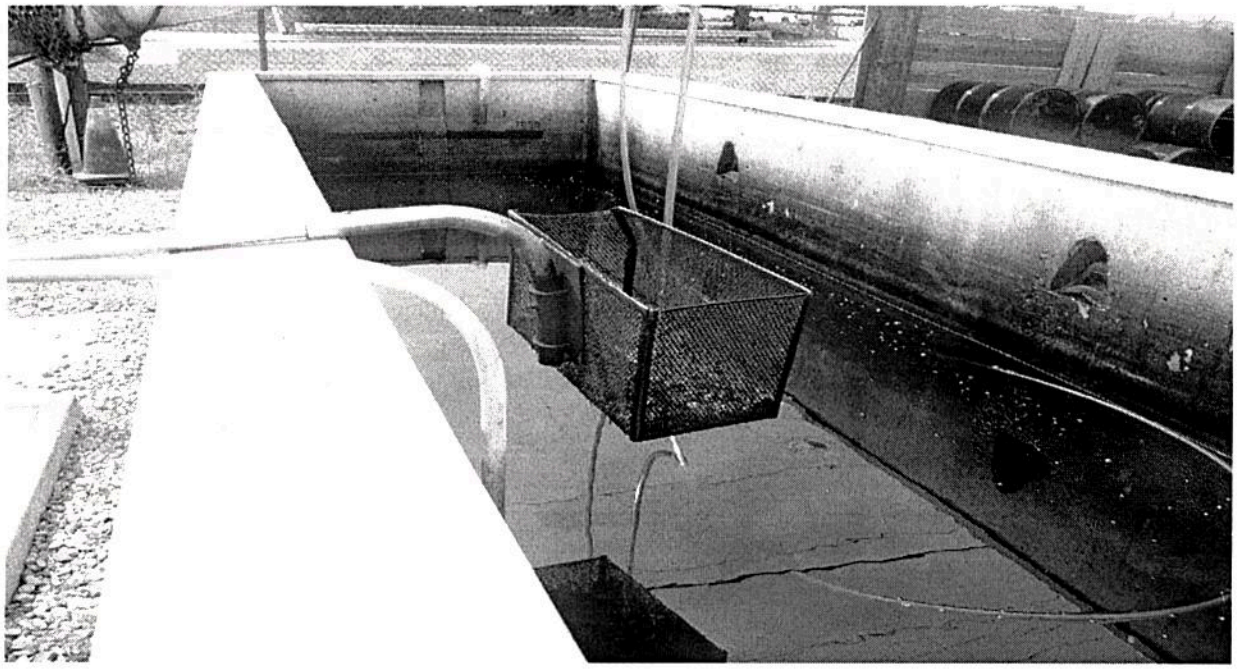


Photo 5: An Oil/water separator at Outfall 003.

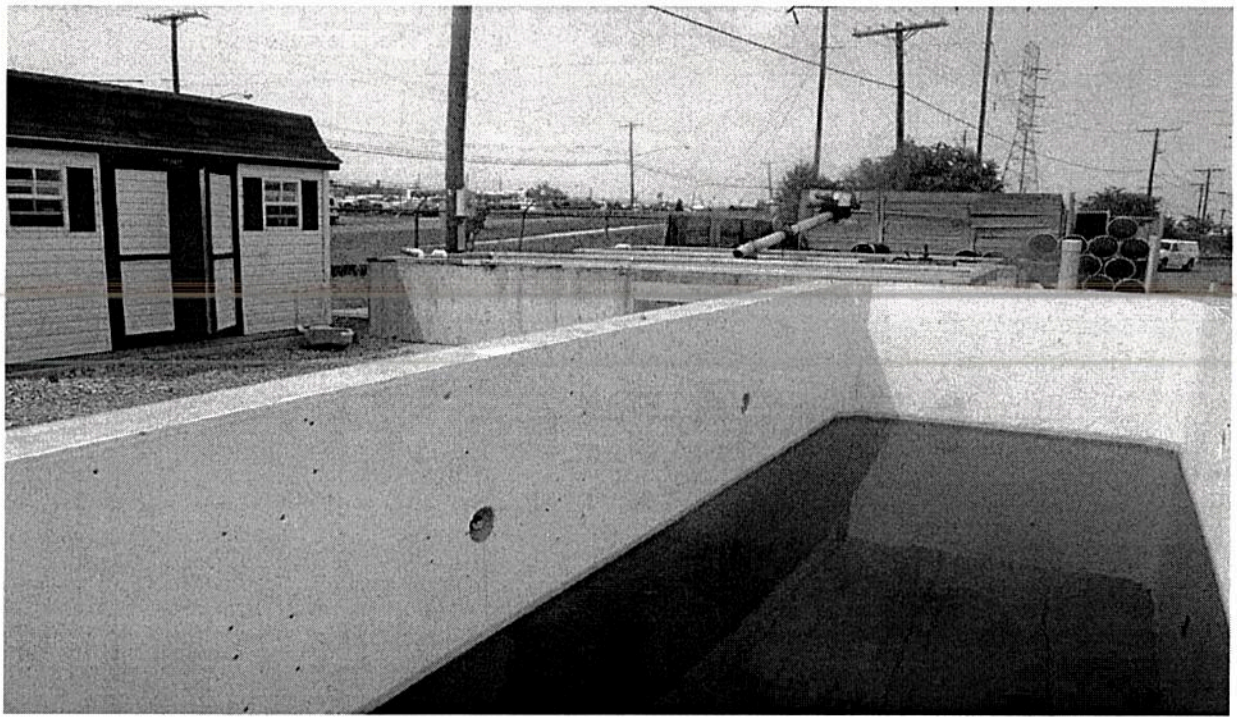


Photo 6: New additional storage tank at the oil/water separator at Outfall 003.

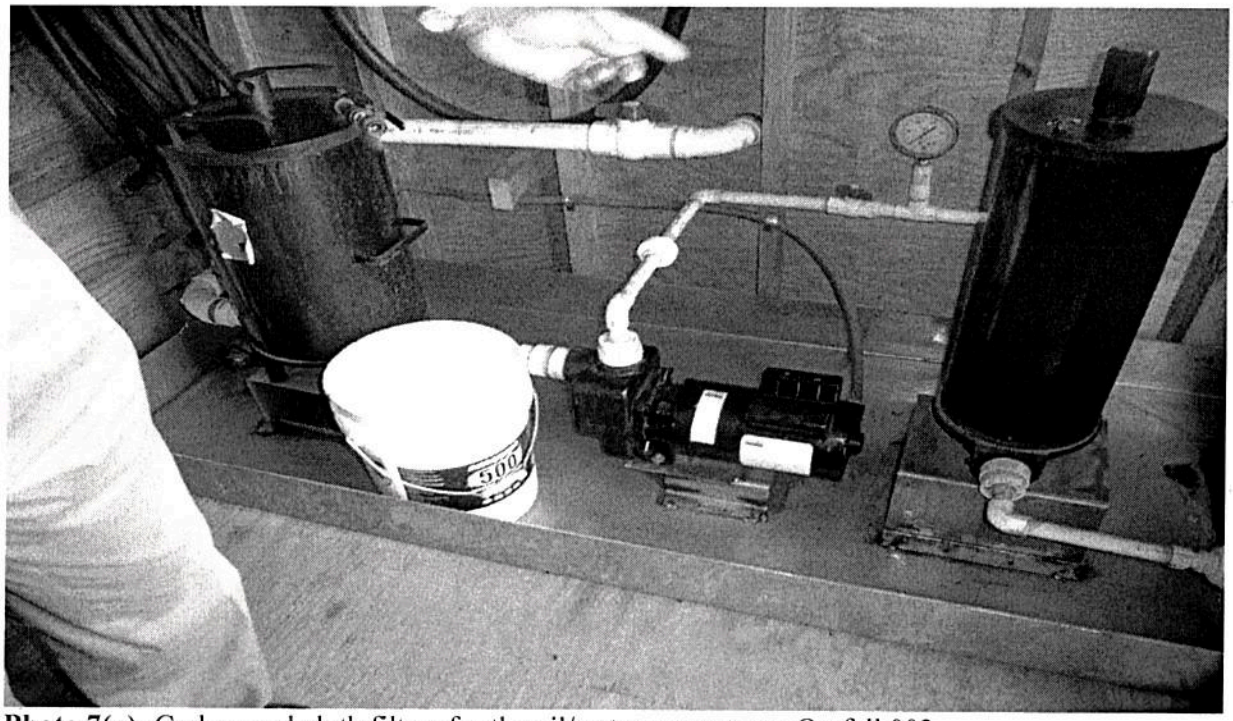


Photo 7(a): Carbon and cloth filters for the oil/water separator at Outfall 003.

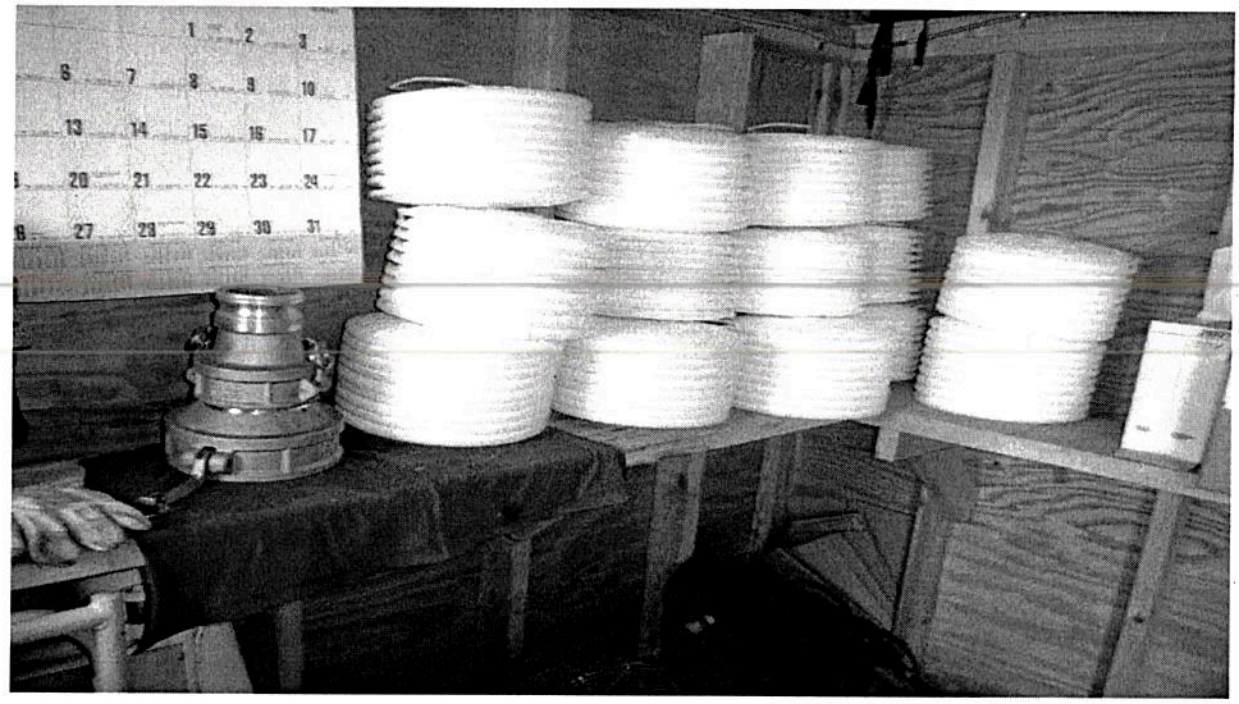


Photo 7(b): Replacement filters for the oil/water separator at Outfall 003.

Photo 8: Outfall 013 at the Anacostia River. Turbidity can be seen in the water. The outfall was discharging at the time of inspection.

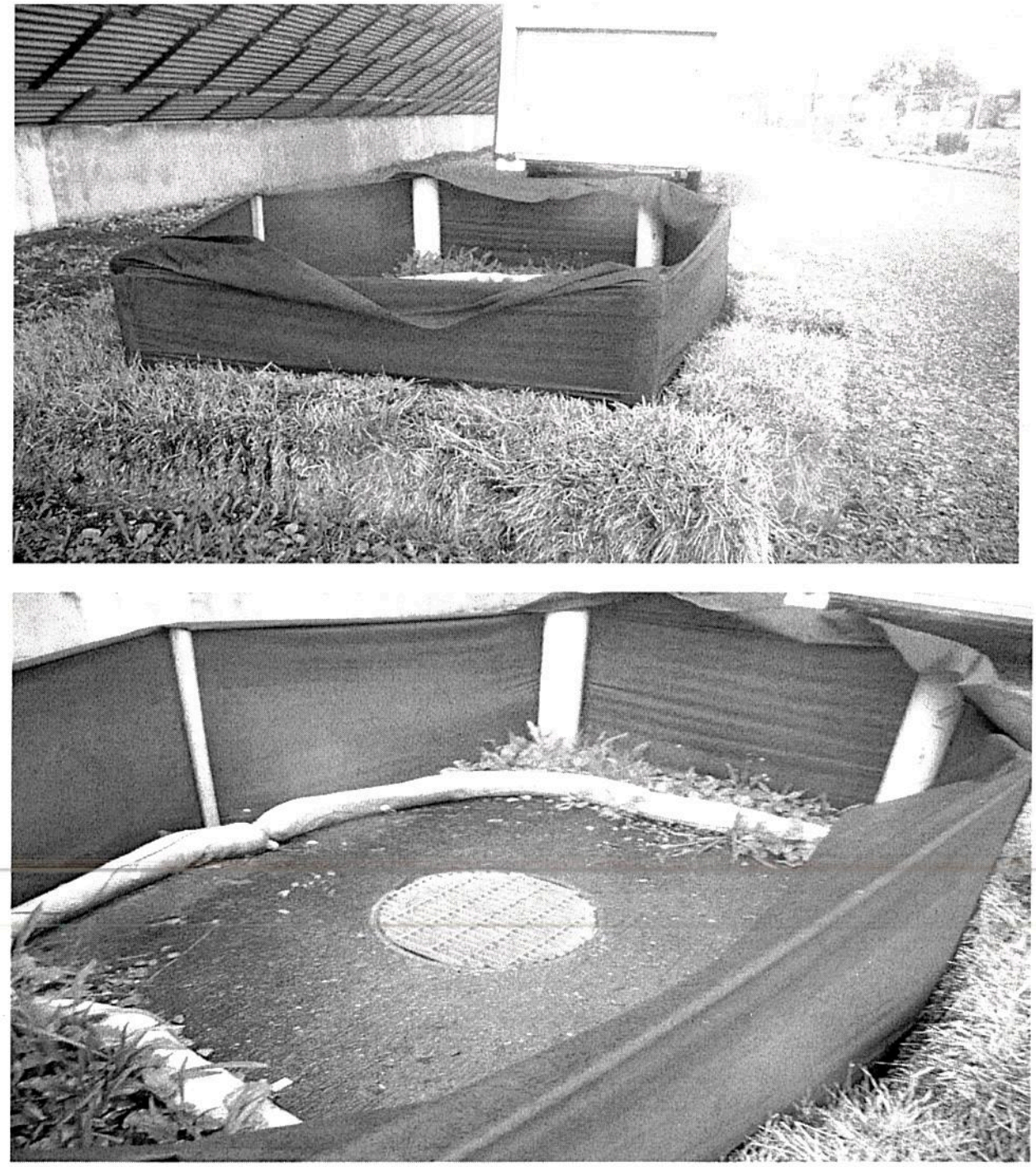


Photo 9: Hay straw, turbidity curtain and oil boom/filter cloth around an inlet/manhole, which is a sampling point for Outfall 013.

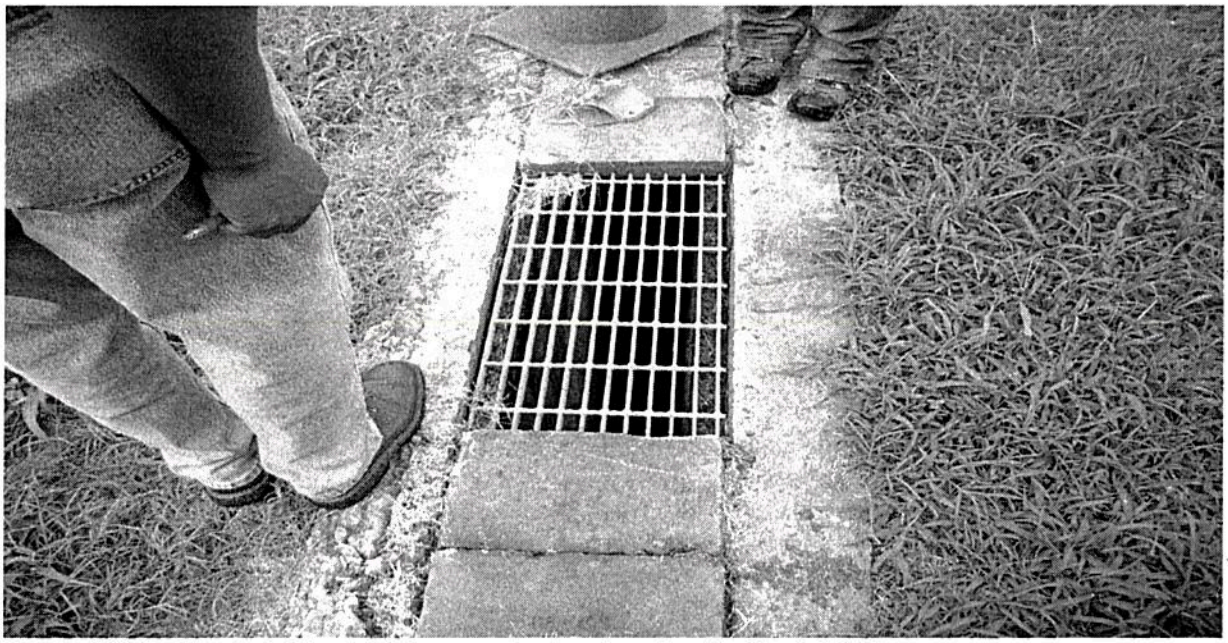


Photo 10(a): Manhole K, which is a monitoring location for Outfall 101.

Photo 10(b): Outfall 101 discharges to the Anacostia River at the facility's intake point (tall grass under the bridge). The outfall was submerged and covered by the grass under the bridge. The monitoring location is to be retrofitted so that it does not get impacted by high tides from the river

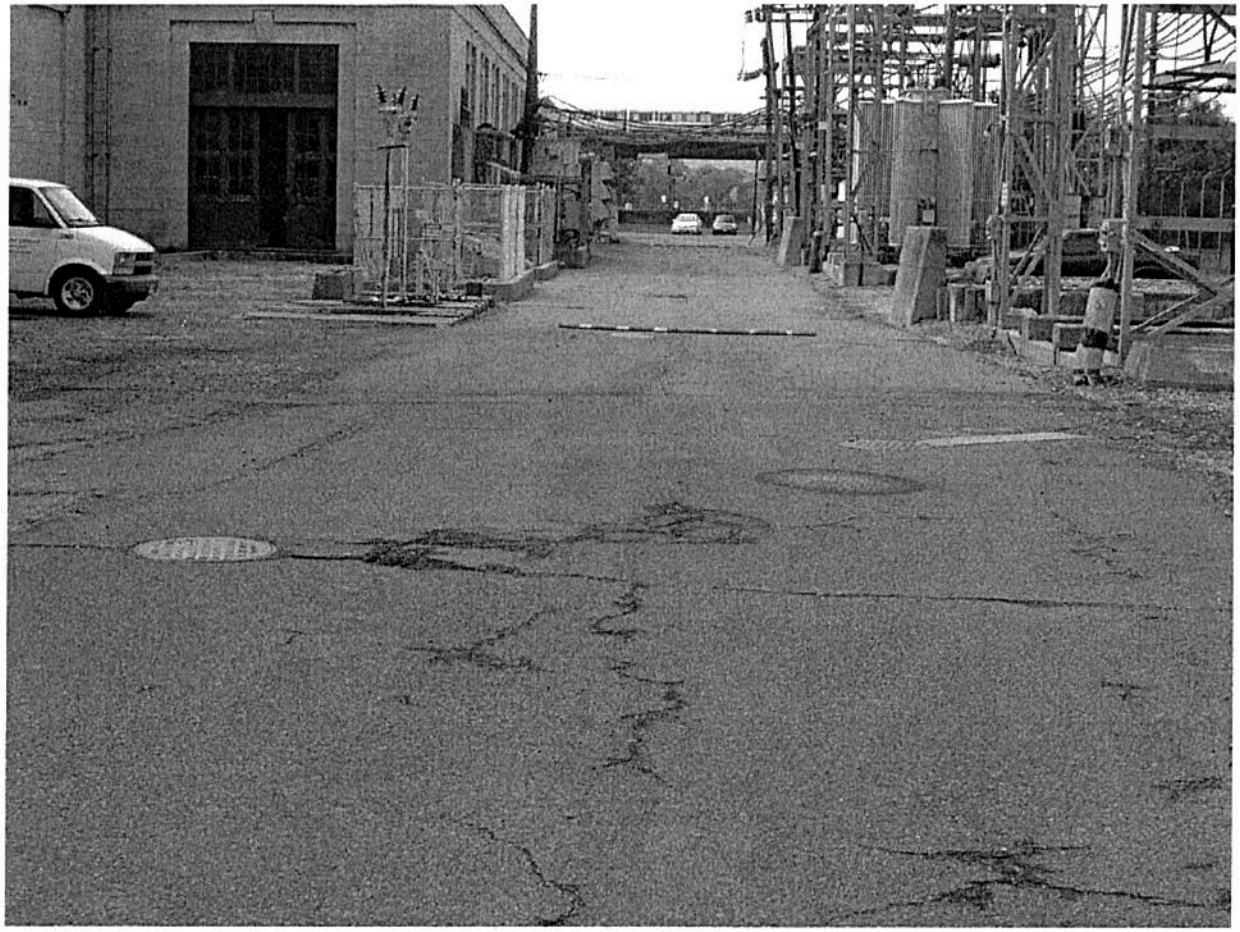


Photo 11: Drainage area for Outfall 101 comprises of the transformer area and access road on the west of the power generating building.

Photo 12(a): Spill guards are used around equipment that contains oil.

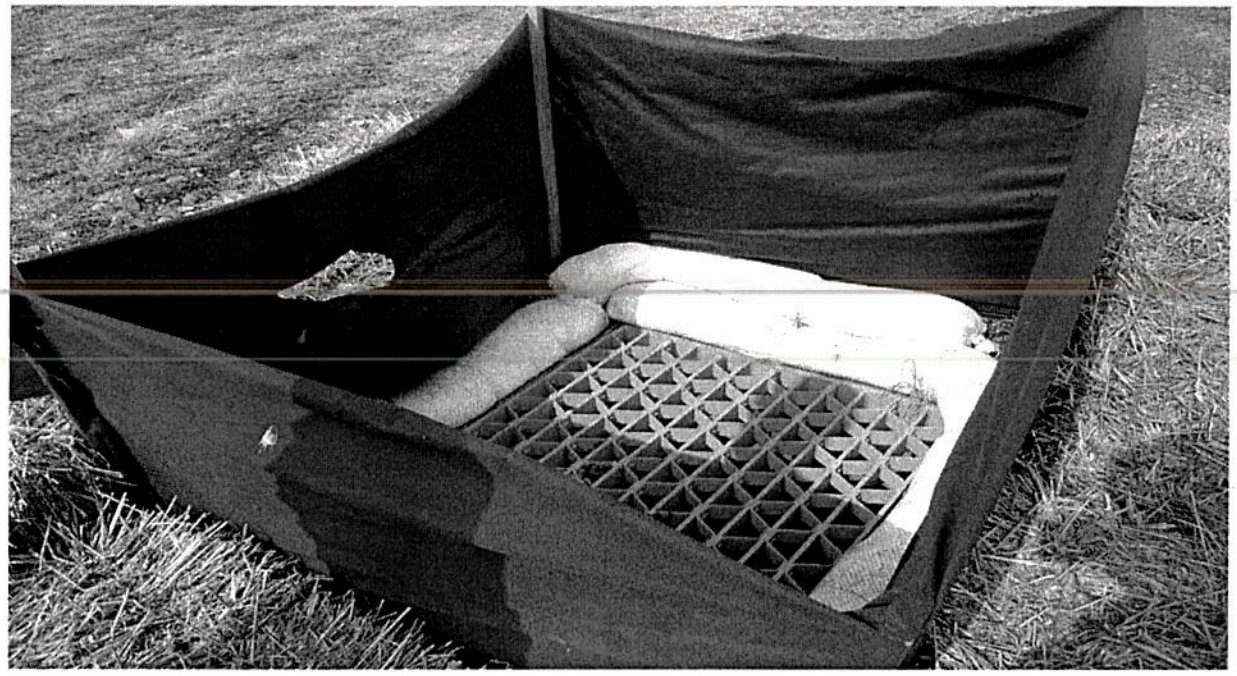


Photo 12(b): Hay straws, silt fence, and oil boom/filter cloth around an inlet (typical best management practices at several inlets at the facility).

Photo 13: Cooler boxes for shipping samples to an offsite laboratory.

Photo 14: Refrigerator for storing samples before they are taken to an offsite laboratory. However, there was no thermometer inside.

Photo 15: Outfall 202 receives blow down discharge from Unit 15. Outfall 203 receives blow down discharge from Unit 16.

Photo 16: Spillover water from the cooling tower flows along access road.

Photo 17: Spillover water from the cooling towers flows along the perimeter fence into a manhole that connects to the municipal separate stormwater system (MS4) sewer lines.